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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,768	02/25/2000	Randell L. Mills	62-226-ion	6782
20736	7590	03/29/2004	EXAMINER	
MANELLI DENISON & SELTER 2000 M STREET NW SUITE 700 WASHINGTON, DC 20036-3307			WELLS, NIKITA	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/513,768	Applicant(s) MILLS, RANDELL L.	
	Examiner Nikita Wells	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-209 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-209 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>20</u> . | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. The Applicant filed a "Request for Continued Examination" (RCE, Paper #21) received August 19, 2003 under 37 CFR 1.114 in reply to the Advisory Action (see Paper #19).

Applicant's arguments in the RCE (Paper #21), the "Response to the Office Action" (Paper #10), and the "Supplemental Amendment to the Office Action" (Papers #17 and 18) have been fully considered but they are not persuasive. The Examiner analyzed the data and found the compelling experimental evidence to be insufficient as presented. The rejections as stated in the previous Office Action (Paper #14) dated July 29, 2002 are still applicable to the claims.

#### ***Claim Rejections - 35 USC § 101***

2. Claims 1-209 stand rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well established utility. The invention is based upon assumptions that are contrary to basic, well established, laws of quantum physics and, therefore, is inoperative and lacks utility.

#### ***Claim Rejections - 35 USC § 112***

3. Claim 1-209 stand rejected under 35 U.S.C. §112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Applicant claims that experimental data confirms that the existence of lower-energy atomic hydrogen (also referred to as "increased binding energy hydrogen" since the lower energy state results in a higher binding energy) is identified by extreme ultraviolet (EUV) spectroscopy

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conducted in numerous tests, which are disclosed in the Applicant's papers; and that this data demonstrates conclusively that the existence of lower energy hydrogen is not only a theoretical possibility, but is in fact a reality.

The applicant challenges the Examiner to provide an explanation of errors found in the extensive theory disclosed in the present specification and errors in the supporting experimental evidence. However, the burden of proof rests with the Applicant in that he has to show to the Examiner that the experimental evidence demonstrates the existence of a novel hydrogen species and compositions of matter comprising a new form of hydrogen that is lower in energy than unreacted atomic hydrogen that corresponds to a fractional principal quantum number replacing the interger in the Rydberg equation for hydrogen excited states.

The Examiner considered the experimental evidence, but questions the validity of the experiments. If one analyzes the status of the latest experimental papers submitted by the Applicant (numbers 50 to 94)\*, NONE of Applicant's alleged evidence of Applicant's lower-energy atomic hydrogen (the fictive "hydrino") are valid. Paper numbers 53, 55, 57, 58, 60-66, 68, and 70-94 have not yet been published in scientifically qualified journals with appropriate review process, therefore they are not yet credible. The other paper numbers (51-52, 54, 56, 59, 67, and 69) have been published in scientifically qualified journals, but do not refer to the "hydrino" or to the possible existence of states of a lower-energy atomic hydrogen having

\* Experimental paper numbers 1-49 as submitted by the Applicant with the initial application, have previously been analyzed and similarly were found to be non-credible.

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fractional energy levels. The only paper that was found to be published in a peer-reviewed journal is reference number 50. And, even here, the refereeing of the journal of Vibrational Spectroscopy is somewhat questionable. This is the only paper that the Examiner sees which correlates the experimental evidence of the spectral analysis as provided by the Applicant with the change in theory which substitutes the fractional integers for the whole integers in the above mentioned Rydberg equation (see equation no. 1 in the Specification) which would perturb the dimension of the Bohr radius, increase the binding energy, and subsequently demonstrate the existence of a novel form of a hydrogen species. It is in this paper that the Applicant shows the low energy peaks which he attributes to states of lower-energy atomic hydrogen, and from which the Applicant postulates his theory using fractional principal quantum numbers. However, as mentioned before and as reiterated in the attached appendix, the existence of these very weak peaks can be explained by external contamination or simply by unforeseen experimental error, and should not have lead the Applicant to construe the outlandish claim to the discovery of a new form of hydrogen (the hydrino) along with a theory which tries to explain its existence.

As to the anomalous hydrogen line broadening recited in the experimental papers and the Applicant's claim that this is evidence of the lower energy hydrogen, there are many other physically plausible explanations (see Appendix), i.e. pressure broadening (due to high pressure within a hollow cathode), resonance broadening, microwave-field broadening, and many other broadening mechanisms which are fundamentally different than Applicant's "resonance broadening" due to hydrino levels. Thus, even if Applicant's hydrino hypothesis would be assumed as physically plausible, an explanation based on a new hypothesis in the presence of a number of other plausible reasons, is highly speculative. Consequently, the experimental data as

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presented in the technical papers, fails to convince the Examiner as to the possible existence of a lower-energy atomic hydrogen.

However, not only is the hydrino hypothesis highly speculative, but physically wrong, because it is based on many misunderstandings of conventional quantum mechanics, electromagnetic theory and the theory of relativity, as pointed out in detail in the Appendix.

### *Conclusion*

4. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (571) 272-2484. The examiner can normally be reached on 8:30 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Nikita Wells, Primary Examiner  
Art Unit 2881  
March 25, 2004

Analysis and discussion provided in the Appendix written by Bernard Eng-Kie Souw -- attached.